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Practitioner's Docket No. 18438/09029 (01115/1)

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: Emily J. Reinhard, Stephen A. Kolodziej, David R. Anderson, Nathan W. Stehle,  
William F. Vernier, Len F. Lee and Shridhar G. Hegde

Application No.: 10/728,460

Group No.: Unknown

Filed: 12/05/2003

Examiner: Unknown

For: METHOD OF USING AMINOCYANOPYRIDINE COMPOUNDS AS MITOGEN ACTIVATED  
PROTEIN KINASE-ACTIVATED PROTEIN KINASE-2 INHIBITORS

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I hereby certify that the attached correspondence comprising:

1. Information Disclosure Statement Transmittal Letter (2 pages)
2. Information Disclosure Citation in an Application (3 pages)
3. References enclosed (32 each)
4. Return Postcard

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Terry P. Ballew

*Terry P. Ballew*  
Signature of person mailing paper



DOCKET NO: 18438/09029

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of Emily J. Reinhard, et al.	)	Examiner: Unknown
Serial No: 10/728,460	)	Art Unit: Unknown
Filed: December 5, 2003	)	Deposit Account: 50-2548
Title: METHOD OF USING AMINOCYANOPYRI-	)	
DINE COMPOUNDS AS MITOGEN	)	
ACTIVATED PROTEIN KINASE-	)	
ACTIVATED PROTEIN KINASE-2	)	
INHIBITORS	)	

**INFORMATION DISCLOSURE STATEMENT**  
**TRANSMITTAL LETTER**

Mail Stop DD  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 C.F.R 1.56, 1.97 and 1.98, Applicant is submitting the art shown on the attached list for consideration by the Examiner. By this submission, it is not admitted that any of the listed references are, in fact, prior art. The Examiner is respectfully requested to make an independent search and evaluation of all relevant prior art.

This Information Disclosure Statement is being filed prior to the mailing of a first office action on the merits and, therefore, no additional filing fee or certification is required.

Respectfully requested,

NELSON MULLINS RILEY & SCARBOROUGH

Charles E. Dunlap  
Registration No. 35,124

May 25, 2004  
Date

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Terry P. Ballew

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*Terry P. Ballew*





<b>Form PTO-1449</b>  <b>INFORMATION CONCERNING PRIOR ART CITATION IN AN APPLICATION</b> <i>(Use several sheets if necessary)</i>	Docket Number Optional 18438/09029	Application Number 10/728,460
	Applicant Reinhard et al.	Filing Date December 5, 2003
	Examiner Unknown	Group Art Unit Unknown

### U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER							DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	5	2	8	1	6	1	9	01/25/94	Dell, et al.	514	454	
	5	2	8	4	8	6	8	02/08/94	Dell, et al.	514	454	
	5	3	7	8	6	9	9	01/03/95	Brunavs, et al.	514	312	
	5	3	7	8	7	1	7	01/03/95	Brunavs, et al.	514	337	
	5	4	8	0	8	7	3	01/02/96	Brunavs, et al.	514	33	
	5	5	1	4	7	0	6	05/07/96	Ambler, et al.	514	454	
	5	6	2	2	9	8	7	04/22/97	Brunavs, et al.	514	454	
	5	6	2	4	9	5	3	04/29/97	Ambler, et al.	514	454	
	5	6	6	3	3	7	5	09/02/97	Brunavs, et al.	549	385	
	6	4	3	2	9	6	2	08/13/02	Horneman	514	255.06	
	6	3	3	5	3	4	0	01/01/02	Gallagher et al.	514	252.05	
	6	2	6	8	1	6	3	07/31/01	Kongsbak et al	435	15	
	6	2	1	8	1	3	6	04/17/01	Kumar et al.	435	15	
	6	0	4	6	2	0	8	04/04/00	Adams et al	514	274	

### FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	Translation	
						YES	NO
	WO 99/51735	14.10.99	Kotlyarov	C12N	15/11		X
	WO 00/23444	27.04.00	Bhagwat, et al.	C07D	471/04	X	
	WO 01/29037 A2	26.04.01	Johnson, et al.	C07D	471/00	X	
	WO 01/47892 A1	05.07.01	Berger, et al.	C07D	215/54	X	
	WO 02/24679 A1	28.03.02	Lowinger	C07D	401/04	X	

### OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	United States Patent Application Publication, Pub. No. US 2001/051620 A1, December 13, 2001
	Article from Bioorganic & Medicinal Chemistry Letters, Vol. 5, No. 23, pp. 2783-2788, 1995 by C. W. Smith et al., entitled The Anti-Rheumatic Potential of a Series of 2,4-Di-substituted-4H-Naphtho[1,2-b]Pyran-3-Carbonitriles.
	Abstract No. 132:260099 entitled "Anti-Inflammatory Substances" by N. Hirasawa et al., <i>Tanpakushitsu Kakusan Koso</i> , 45(6): 1199-1203 (2000)
	Abstract from J. Biol Chem., 2003 Jan., Vol. 278(3), pp. 1450-1456 by J.R. Burke et al. entitled BMS-34551 is a highly selective inhibitor of I kappa B kinase that binds at an allosteric site of the enzyme and blocks NF-kappa B-dependent transcription in mice.
	Abstract from The Journal of Biochemical Chemistry, 2002 Oct., Vol. 367(Pt 2): pp. 525-532 by A. Knebel, et al. entitled Stress-induced regulation of eukaryotic elongation factor 2 kinase by SB 203580-sensitive and -insensitive pathways.
	Abstract from Biochim Biophys. Acts., 2002 July, Vol. 1598(1-2): pp. 88-97 by J.F. Schindler et al. entitled Examination of the kinetic mechanism of mitogen-activated protein kinase activated protein kinase-2.
	Article from FEBS Letters 392 (1996), pp. 209-214 by A. Clifton et al. entitled A comparison of the substrate specificity of MAPKAP kinase-2 and MAPKAP kinase-3 and their activation by cytokines and cellular stress.
	Article from FEBS Letters 364 (1995), pp. 229-233 by A. Cuenda et al. entitled SB 203580 is a specific inhibitor of a MAP kinase homologue which is stimulated by cellular stresses and interleukin-1.

Form PTO-1449		Docket Number Optional 18438/09029	Application Number 10/728,460
<b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION</b> <i>(Use several sheets if necessary)</i>		Applicant Reinhard et al.	Filing Date December 5, 2003
		Examiner Unknown	Group Art Unit Unknown
	Article from The Journal of Immunology, 2000 July, 165: pp. 3951-3958, by A. K. De et al. entitled Exaggerated Human Monocyte IL-10 Concomitant to Minimal TNF- $\alpha$ Induction by Heat-Schock Protein 27 (Hsp27) Suggests Hsp27 is Primarily an Antiinflammatory Stimulus.		
	Article from The American Society for Biochemistry and Molecular Biology, Inc., 1995 Nov., Vol.:270(45), pp. 27213-27221 by K. Engel et al. entitled Constitutive Activation of Mitogen-activated Protein Kinase-activated Protein Kinase 2 by Mutation of Phosphorylation Sites and an A-helix Motif(*).		
	Article from The Journal of Biological Chemistry, 1997 Feb., Vol. 272(6): pp. 3296-3301 by I. N. Foltz et al. entitled Hemopoietic Growth Factors with the Exception of Interleukin-4 Activate the p38 Mitogen-activated Protein Kinase Pathway.		
	Article from Biochemical Journal, 1995 Sept., 311(Pt. 3): pp. 735-738 by G. W. Gould et al. entitled The activation of distinct mitogen-activated protein kinase cascades is required for the stimulation of 2-deoxyglucose uptake by interleukin-1 and insulin-like growth factor-1 in KB cells.		
	Article from The Journal of Immunology, 2001 July, 167: pp. 3953-3961 by M. O. Hannigan et al. entitled Abnormal Migration Phenotype of Mitogen-Activated Protein Kinase-Activated Protein Kinase 2 <sup>-/-</sup> Neutrophils in Zigmond Chambers Containing Formyl-Methionyl-Leucyl-Phenylalanine Gradients.		
	Article from The Journal of Biological Chemistry, 1999 May, Vol. 274(20): pp. 14434-14443 by O. Heidenreich et al. entitled MAPKAP Kinase 2 Phosphorylates Serum Response Factor in Vitro and in Vivo*.		
	Article from The Journal of Biological Chemistry, 2001 July, Vol. 276(45): pp. 41856-41861 by R. Janknecht entitled Cell Type-specific Inhibition of the ETS Transcription Factor ER81 by Mitogen-activated Protein Kinase-activated Protein Kinase 2*.		
	Article from Biochemical Society Transactions, 2002, Vol. 30(6): pp. 959-963 by A. Kotlyarov et al. entitled Is MK2 (mitogen-activated protein kinase-activated protein kinase 2) the key for understanding post-transcriptional regulation of gene expression?		
	Article from Nature Cell Biology 1999 June, Vol. 1: pp. 94-97 by A. Kotlyarov et al. entitled MAPKAP kinase 2 is essential for LPS-induced TNF- $\alpha$ biosynthesis.		
	Article from The Journal of Immunology, 2002 March, Vol. 168(9): pp. 4667-4673 by M. D. Lehner et al. entitled Mitogen-Activated Protein Kinase-Activated Protein Kinase 2-Deficient Mice Show Increased Susceptibility to <i>Listeria monocytogenes</i> Infection.		
	Article from Molecular Endocrinology, 2001, Vol. 15(5): pp. 716-733 by E. T. Maizels et al. entitled Developmental Regulation of Mitogen-Activated Protein Kinase-Activated Kinases-2 and -3 (MAPKAPK-2/-3) in Vivo during Corpus Luteum Formation in the Rat.		
	Article from The Journal of Biochemical Chemistry, 1998 Sept., Vol. 273(38): pp. 24832-24838 by K. Miyazawa et al. entitled Regulation of Interleukin-1 $\beta$ -induced Interleukin-6 Gene Expression in Human Fibroblast-like Synoviocytes by p38 Mitogen-activated Protein Kinase.		
	Article from Circulation Research, 2000 Feb.: pp. 144-151 by N. Nakano et al. entitled Ischemic Preconditioning Activates MAPKAPK2 in the Isolated Rabbit Heart.		
	Article from The Journal of Neuroscience, 1998 March, Vol. 18(5): pp. 1633-1641 by N. Bhat et al. entitled Extracellular Signal-Regulated Kinase and p38 Subgroups of Mitogen-Activated Protein Kinases Regulate Inducible Nitric Oxide Synthase and Tumor Necrosis Factor- $\alpha$ Gene Expression in Endotoxin-Stimulated Primary Glial Cultures.		
	Article from The Journal of Biological Chemistry, 2002 Feb., Vol. 277(5): pp. 3065-3068 by A. Neininger et al. entitled MK2 Targets AU-rich Elements and Regulates Biosynthesis of Tumor Necrosis Factor and Interleukin-6 Independently at Different Post-transcriptional Levels*.		
	Article from The Journal of Biological Chemistry, 2000 April, Vol. 275(15): pp. 11284-11290 by E. Paine et al. entitled Arachidonic Acid Activates Mitogen-activated Protein (MAP) Kinase-activated Protein Kinase 2 and Mediates Adhesion of a Human Breast Carcinoma Cell Line to Collagen Type IV through a p38 MAP Kinase-dependent Pathway.		

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<b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION</b> <i>(Use several sheets if necessary)</i>		<b>Applicant</b> Reinhard et al.	<b>Filing Date</b> December 5, 2003
		<b>Examiner</b> Unknown	<b>Group Art Unit</b> Unknown
		Article from Blood, 1999 Jan., Vol. 93(1): pp. 217-225 by M. P. Scheid et al. entitled Ceramide and Cyclic Adenosine Monophosphate (cAMP) Induce cAMP Response Element Binding Protein Phosphorylation via Distinct Signaling Pathways While Having Opposite Effects on Myeloid Cell Survival.	
		Article from Proc. Natl. Acad. Sci, 2000 May, Vol. 97(10): pp. 5261-5266 by O. Werz et al. entitled 5-Lipoxygenase is phosphorylated by p38 kinase-dependent MAPKAP kinases.	
		Article from Kidney International, 2001 March, Vol. 60: pp. 858-871 by W. A. Wilmer et al. entitled Chronic exposure of human mesangial cells to high glucose environments activates the p38 MAPK pathway.	
<b>EXAMINER</b>		<b>DATE CONSIDERED</b>	
<b>EXAMINER:</b> Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.			